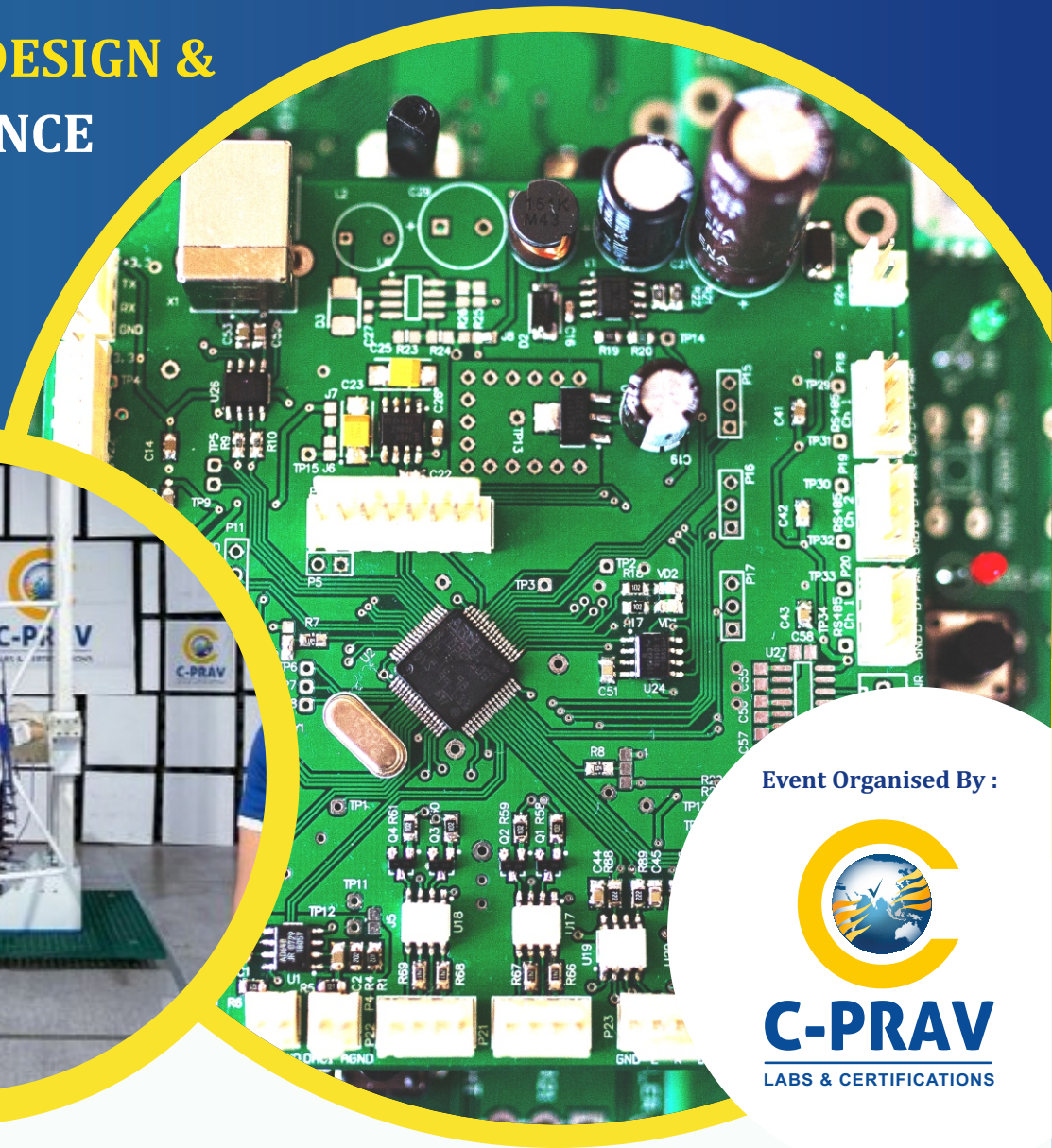


# INDIA'S PREMIER PRODUCT DESIGN & EMC COMPLIANCE TRAINING WORKSHOP

PRACTICAL  
**ELECTRONIC DESIGN &**  
EMC COMPLIANCE  
TECHNIQUES



Event Organised By :



Training Workshop Dates:

**31** **01** **02** **03** **04** **2026**  
AUG SEPT SEPT SEPT SEPT

**JULY**  
**30**  
3PM - 5PM

**Free Introductory Session**  
**(Curtain Raiser Event)**  
**ALL ARE WELCOME**



**VENUE :**  
The Oterra Hotel, Electronic City Phase 1,  
Bengaluru, India



**REGISTRATIONS :**  
OPEN From 10<sup>th</sup> July 2026



**ENQUIRIES to :**  
sachin@c-prav.com; dishant@c-prav.com



**Call :**  
+91 83101 63120, +91 97201 66667

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# PRACTICAL ELECTRONIC DESIGN & EMC COMPLIANCE TECHNIQUES



## MESSAGE FROM C-PRAV'S CEO, MR. PRAVEEN RAO

*\*\*Bridging the Gap: Design Quality & EMC Compliance in India's Manufacturing Story\*\*  
India's **\*\*Make in India\*\*** and **\*\*Digital India\*\*** initiatives have unlocked tremendous manufacturing potential, but ambition without compliance limits global success.*

*To compete internationally, manufacturers must move beyond assembly and adopt indigenous product design built to global quality standards. This requires:*

*\* Design-for-compliance from the start, not as an afterthought.*

*\* EMC (Electromagnetic Compatibility) training—essential for electronics exports to the EU, US, and other regulated markets.*

*\* Practical upskilling in product design testing, certification (CE, FCC, BIS), and failure analysis.*

*The real gap isn't intent—it's skilled talent. Engineers with expertise in both circuit design and EMC are scarce. Without them, products fail compliance testing, sales are delayed, and costs escalate - hence getting it right the first time is very vital for a ROI.*

*The solution is structured training in product design, signal integrity, and EMC compliance to boost export readiness—making **\*\*"Made in India"\*\*\*** a symbol of quality, not just origin.*

*By embedding world-class product design training into the heart of its manufacturing policy, India can move up the global value chain, shifting its narrative from "Made in India" to "Designed, Made & Tested in India for the world"*

*Policy provides the runway; skilled engineers and compliance professionals make takeoff possible.*

**\*\*\*Together We Achieve\*\*\***

*At C-PRAV, we believe that compliance is not just a requirement — it's the foundation of trust in every product brought to market. Our mission is to bridge innovation and launch your products to global markets with confidence after legally complying with the respective regulations. Our commitment is to support designers, developers and manufacturers through every stage of the compliance process, from the product's concept to reaching the end consumer. With a global network across Australia, India, New Zealand, Canada, Singapore, France, and Malaysia we deliver end-to-end solutions tailored for your needs. We are at your disposal for anything you need to know about Standards, Regulations, Testing and Certifications.*



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# PRACTICAL ELECTRONIC DESIGN & EMC COMPLIANCE TECHNIQUES

## BRINGING THE BEST TO BANGALORE



KEITH ARMSTRONG

### The Global EMC Guru from the UK

The man who needs no introduction.

Founder of Cherry Clough Consultants Ltd since 1990  
Fellow of IET and Senior Member of IEEE since 2010  
With thousands trained since 1994, Keith received the 2018 IEEE Award for Continuing EMC Engineering Education.

Helping designers, manufacturers, system integrators, installers, operators and users to quickly design for low-cost EMC in a way that improves functionality whilst reducing project financial risks



DR. MIN ZHANG

### The EMC Doctor from UK

Dr. Min Zhang is an EMC consultant based in Oxford, UK. He received his PHD within Newcastle University's Electrical & Electronics Engineering department in 2013. His research was in novel power switching schemes to reduce EMI emissions, and his research papers have received many citations.

EMC trouble shooting, EMC design reviews, pre-compliance testing guide for products across all industries including Industrial consumer, medical etc.



DR. Marco Klingler

### EMC Simulation Specialist from France

Dr. Marco Klingler is a globally recognized EMC Expert and Consultant with over 35 years of experience in electromagnetic compatibility for the automotive industry. Formerly an EMC Expert at Stellantis (PSA Group) and researcher at INRETS, France, he specializes in EMC design, simulation, full vehicle validation, automotive powertrains, functional safety, advanced connectivity, and RF/antenna systems.

As the CEO of Klingler International Consulting Services and a long-time university lecturer, Dr. Klingler is dedicated to sharing his extensive industry expertise with engineers worldwide.



ISTWAAN KNIJFF

### The EMC & ESD Specialist from The Netherlands

As electrical engineer specialized in EMC & ESD, founder of CourseTec Consultancy to help companies with the aspects of EMC and ESD during product development.

Having worked in automotive electronics development for over 20 years, responsible for EMC and ESD, With increasing EMC and ESD challenges in modern electronics, has helped numerous companies to anticipate and prevent potential design problems.

This reduces cost and delays by avoiding unnecessary re-designs, wrong material orders and failures during certification measurements



CLAUS ROMER  
ANDERSON

### The Medical specialist from Denmark

As electrical engineer specialized in Design of medical device/system, standards IEC 60601-x, risk management ISO 14971, QMS ISO 13485, , MDR, FDA compliance. Founder of Romer consulting with 2 decades of expertise.



PRAVEEN RAO

### Standards, Regulations, Testing and Global Approvals Specialist from Australia/India

With over 33 years of engineering experience, Praveen is a seasoned professional specializing in electrical/electronic product testing and certifications for global markets.

As an ISO/IEC 17025, NATA & IANZ Authorized Technical Assessor, and Chair of the Australian EMC National Standards Committee,

Praveen is a recognized representative in international standards committees such as IEC, CISPR, IEEE.

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# PRACTICAL ELECTRONIC DESIGN & EMC COMPLIANCE TECHNIQUES

C-PRAV has organised this event with the support of SEMCE(I), the IEEE EMC Society and other industry partners to bring world-class EMC product design expertise to India for India's product designers, developers, test engineers, and compliance professionals.

This workshop presents a rare opportunity for Indian engineers and product designers to learn directly from Keith Armstrong and other internationally renowned experts. The programme goes far beyond theory, combining practical design methodologies, real-world case studies, live demonstrations, hands-on design guidance, practical references, and interactive Q&A sessions.

## For full details of the workshop & Any Other Enquiries, Please Contact

C-PRAV Certifications : [www.C-PRAV.com](http://www.C-PRAV.com)  
Sachin Yadav : +91 83101 63120; [sachin@C-PRAV.com](mailto:sachin@C-PRAV.com)  
Dishant Kumar : +91 97201 66667; [dishant@c-prav.com](mailto:dishant@c-prav.com)

Registrations Open : 10<sup>th</sup> July 2026

Cost For The Event:

| INDIA (INPERSON)                                                                                                   | INTERNATIONAL (ONLINE)                                                                             |
|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Complete course : INR 50,000+ GST<br>Early Bird Price INR 45,000+ GST<br>(Register Before 7 <sup>th</sup> August): | Complete course : USD 800<br>Early Bird Price USD 650<br>(Register Before 7 <sup>th</sup> August): |
| Group Registration Offer: 3 or more Participants From the<br>Same Company INR 42,500+ GST                          | Group Registration Offer: 3 or more Participants From the<br>Same Company USD 600                  |

**10% Discount : For All SEMCE(I) Members, IEEE EMC Society Members & Startup's Less than 2 Year's Old.**

1. SEMCE(I) Members and IEEE EMC Society Members. please share your membership ID to [Sachin@c-prav.com](mailto:Sachin@c-prav.com)
2. If you are a startup company with less than 2 years old please share a copy of Company registration document to [Sachin@c-prav.com](mailto:Sachin@c-prav.com)

Hint: This workshop is an investment—not a cost. The participation fee is insignificant compared to the savings achieved by implementing the practical EMC design methodologies taught by Keith Armstrong and our panel of internationally renowned experts. These proven techniques can help reduce costly redesigns, shorten time-to-market, & Improve first-pass compliance success while gaining invaluable interactive learning opportunities.

**Certificate of Participation endorsed by all speakers provided to attendees**

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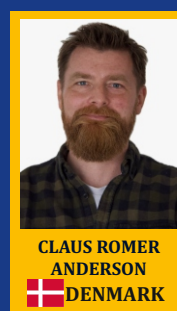
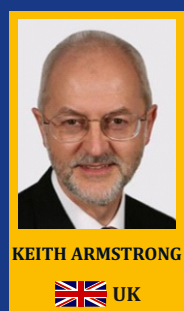


# PRACTICAL ELECTRONIC DESIGN & EMC COMPLIANCE TECHNIQUES

ONLINE EVENT

## Curtain Raiser - A FREE Introductory session 30th JULY (Thursday): 3PM to 5PM

- ▶ Welcome By C-PRAV's CEO Mr. Praveen Rao
- ▶ Welcome address by Dr. DC Pande, Chairman of Society of EMC Engineers India - SEMCE(I)
- ▶ Inaugural Keynote 1 address by Chief Guest Shri. Rakesh S. Desai DDG TEC (Radio) Department of Telecommunications (DoT)  
Topic: TEC MTCTE Scheme and Conformity Assessment of Telecom Products for EMI/EMC Compliance
- ▶ Inaugural Keynote 2 address by Chief Guest Dr. Hanumantha Rao, Director General, SAMEER, R&D of MeitY, Govt of India  
Topic: Govt Initiatives for empowering India's growth of electronics ecosystem
- ▶ Overview of the Workshop : DESIGN + DEVELOPMENT + TESTING + COMPLIANCE :  
A cost effective quick to market journey of a product for global footprint presented by the speakers of the training workshop
- ▶ Panel discussion : Importance of First attempt EMC Compliance vs Cost & Time escalation of failed compliance  
Panellists : Dr. DC Pande [SEMCE(I)], Mr. Mohandas Vasudevan (Philips), Dr. Lenin Raja (EMC & RF)  
Mr. Shiva Shastha Rai (EMC LRDE), Mr. Praveen Rao(Moderator)
- ▶ Thanking & Closing Note By Sachin Yadav, C-PRAV



All Are Welcome By Registering Here

If you have missed this event visit our website events page for recording  
- [www.c-prav/events-2026](http://www.c-prav/events-2026)

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# PRACTICAL ELECTRONIC DESIGN & EMC COMPLIANCE TECHNIQUES

## Training Workshop Dates:

**31** **01** **02** **03** **04** 2026  
AUG SEPT SEPT SEPT SEPT

See Topics detail for respective dates and times

## EVENT SCHEDULE 31<sup>ST</sup> AUGUST (MONDAY) TO 4TH SEPTEMBER (FRIDAY)

| Time             | Activity                            | Duration |
|------------------|-------------------------------------|----------|
| 09:15 - 09:45 AM | Coffee, Registration & Morning Chat | 30 mins  |
| 09:45 - 10:00 AM | Welcome & Keynote                   | 15 mins  |
| 10:00 - 11:00 AM | Training Session                    | 1 Hr     |
| 11:00 - 11:15 AM | Tea / Coffee Break                  | 15 mins  |
| 11:15 - 01:15 PM | Training Session                    | 2 Hrs    |
| 01:15 - 02:15 PM | Lunch Break                         | 1 Hr     |
| 02:15 - 04:15 PM | Training Session                    | 2 Hrs    |
| 04:15 - 04:30 PM | Tea / Coffee Break                  | 15 mins  |
| 04:30 - 05:30 PM | Training Session                    | 1 Hr     |
| 05:30 - 06:00 PM | Q&A, Wrap-up & Evening Chat         | 30 mins  |

SCAN TO REGISTER :  
For the Main Event



[CLICK HERE TO REGISTER](#)

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# PRACTICAL ELECTRONIC DESIGN & EMC COMPLIANCE TECHNIQUES

**Day # 1: 10AM to 6PM IST : 31st AUG 2026 (Monday)**

## **SESSION # 1 ISTWAAN KNIJFF (3 Hrs)**

Introduction into EMC:

- EMC Fundamentals and basic physics (with live demonstrations)
- Coupling mechanisms – Sources of EMI (with live demonstrations)
- Component behaviour over frequency (with live demonstrations)

## **SESSION # 2 DR. MIN ZHANG (3 Hrs)**

Demystifying Grounding & Shielding:

- Grounding Fundamentals
- PCB Grounding Techniques
- System-Level Grounding

**Day # 2: 10AM to 6PM IST : 1st SEPT 2026 (Tuesday)**

## **SESSION # 3 DR. MIN ZHANG (6 Hrs)**

- Practical Demonstrations
- Shielding Fundamentals – How Shielding Really Works
- Shielded Cable Termination Strategies (with Live Demonstrations)

Troubleshooting EMI Like a Pro:

- The Pitfalls of High-Frequency and High-Speed Measurements (with Live Demonstrations)
- Benchtop EMC Measurements – Can We Really Do It?
- EMI Emissions Troubleshooting (with Live Demonstrations)
- EMI Immunity Troubleshooting (with Live Demonstrations)

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# PRACTICAL ELECTRONIC DESIGN & EMC COMPLIANCE TECHNIQUES

**Day # 3: 10AM to 6PM IST : 2nd SEPT 2026 (Wednesday)**

## **SESSION # 4 KEITH ARMSTRONG (1 Hr)**

The importance of EMC design for a product's compliance with regulatory but more of cost benefits, lowering risks, branding reputation and customer confidence. Effective and Efficient design to minimise covering Grounding, Filtering and Shielding hence significant reduction of product development, manufacturing costs, compliance on first go, fast to market, high quality product and higher profits.

## **SESSION # 5 PRAVEEN RAO (2 Hr)**

- **EMC Standards:** The Development of Standards and how they end up as Regulations
- **Regulations:** Covering Europe, USA, Canada, Australia, NZ, India & a few other
- **EMC Testing:** Emissions & Immunity – Test setups, product configurations, Pass/Fail limits, Reporting
- **Certifications:** Different types of Certifications for various countries, type-approvals, labelling

This session will cover how to ensure that the product is compliant with mandatory regulations, which countries to market and sell your product, standards you need to test your product to, how you should configure your products for testing, what regulations apply for your product and after testing, how to complete the approvals?

At C-PRAV, we specialize in and have guided hundreds of various manufacturers to sell their products globally.

### **SUPPORTING & SPONSORSHIP PARTNERS**



# PRACTICAL ELECTRONIC DESIGN & EMC COMPLIANCE TECHNIQUES

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## SESSION # 6 CLAUS ROMER ANDERSON (3 Hrs)

Regulatory and Standards Landscape (Focused on Medical Devices) :

- Why EMC matters from a regulatory standpoint, not just for passing tests
  - Demonstrating safety and effectiveness
- IEC 60601-1-2 – with emphasis on immunity and emissions requirements for medical electrical equipment
- Global market access (EU MDR, FDA, other country-specific differences)
- Risk-based vs. test-based compliance
- When EMC retesting is required after hardware/software changes – and how to justify it

Assessments (Documentation) – necessary for proper testing and managing change

- Test plans and test protocols – proactive EMC management is important
  - Test reports – and the importance of reviewing 3rd party reports
  - Risk management (ISO 14971) – how to integrate EMC with the product risk management file required by ISO 14071
- 

**Day # 4: 10AM to 6PM IST : 3rd SEPT 2026 (Thursday)**

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## SESSION # 7 ISTWAAN KNIJFF (3 Hrs)

EMC Robust design, EMC Test & ESD Control in EPA's :

- PCB routing and cable harness effects (with live demonstrations)
- EMC test plan documentation and test organization
- Overview of (pre-) compliance EMC test
- ESD safe working on sensitive electronics (with live demonstrations)

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# PRACTICAL ELECTRONIC DESIGN & EMC COMPLIANCE TECHNIQUES

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## SESSION # 8 DR. Marco Klingler (2 Hrs)

Using LTspice in the early stages of EMC design and/or at least : This course introduces practical methodologies for EMC simulations by combining circuit-level (SPICE/LTspice) and field-level (EM) modeling and simulation techniques. Participants learn how to build progressively more realistic simulation models, understand their limitations, and use simulation to support EMC design decisions throughout the product development cycle.

### EMC Simulation Philosophy

- Why EMC simulations often fail
  - What makes a "good" simulation model?
  - Managing uncertainty during product development
  - Relative vs. absolute simulation accuracy
- 

## SESSION # 9 CLAUS ROMER ANDERSON (1 Hr)

Real-World EMC Phenomena & Hospital Environments (Focused on Medical Devices) :

- Electromagnetic disturbances beyond lab setups, including CATH labs and ICUs -
- Transient and continuous phenomena – including differentiated acceptable pass/fail criteria
- Device interactions in close proximity and post-market incident understanding – radio systems, RFID systems, metal detectors, aircraft, vehicles, etc.
- Device level and system level challenges for medical compliance
- Commercial product testing vs medical device testing

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# PRACTICAL ELECTRONIC DESIGN & EMC COMPLIANCE TECHNIQUES

**Day # 5: 10AM to 6PM IST : 4th SEPT 2026 (Friday)**

## **SESSION # 10 PRAVEEN RAO ( 1 Hr)**

Pitfalls of EMC – Common anomalies to watch out

EMC Snags & Solutions – Practical case studies

## **SESSION # 11 KEITH ARMSTRONG (2 Hrs)**

I) Medical Devices and Systems: applying IEC TS 60601-4-6 to manage the Safety Risks that can be caused by EMI despite all EMC test being passed and comply with IEC 60601-1-2 and ISO 14971

ii) How to avoid 3rd-party devices from ruining your product's or system's EMC

iii) EMC problems when updating legacy systems

## **SESSION # 12 DR. MARCO KLINGLER (2 Hrs)**

- Simulation strategies throughout the design cycle
- Selecting appropriate modeling fidelity (Live Demonstrations)

Building an EMC Simulation Workflow :

- Development milestones
- Progressive model refinement
- Combining measurements and simulations
- Black-box modeling concepts
- Frequency-domain vs. time-domain simulations (Live Demonstrations)
- Creating a basic simulation workflow

Concluding with Speaker panel interactive session with audience (1 Hr )

*\*End of Course\**

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## Compliance & Product Regulatory Approvals

Indian Certification Services

India@c-prav.com | www.c-prav.com

END – TO – END PRODUCT CERTIFICATION

# C-PRAV India

Your Trusted Knowledge Partner for Product Certifications

Driven by technical excellence and deep regulatory expertise, C-PRAV ensures your products comply with Indian regulations swiftly and seamlessly, covering every aspect of Standards, Regulations, Testing, & Certifications (SRTC).

### Our Services Include:



**BIS**

Bureau of Indian Standards



**TEC**

Telecommunication Engineering Centre



**WPC**

Wireless Planning & Coordination



**BEE**

Bureau of Energy Efficiency



**NCCS –Cybersecurity**

National Centre for Communication Security



**AIS**

Automotive Industry Standards



**MNRE**

Ministry of New & Renewable Energy



**PESO / ATEX**

Explosive Atmosphere Applications



**Legal Metrology**

Measurement, Labelling & Packaging Compliance



**EPR / CPCB**

Waste Management & Plastic Rules



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**C-PRAV Group: Australia, Canada, India, New Zealand, Singapore, France**



## **Compliance & Product Regulatory Approvals**

*A Global Test & Certification Company*

**YOUR LOCAL PARTNER WITH A GLOBAL REACH**

C-PRAV Group is a powerhouse in product testing and regulatory approvals with over 30 years of experience.

Our Melbourne-based EMC & Safety Test Labs are ISO/IEC 17025, NATA & IANZ compliant, offering pre-compliance and full-compliance testing for:

**EMC | Safety | Radio/Wireless | Telecom | EMR | Energy Approvals | IPv6 | CyberSecurity**

SCAN ME



Choose **Compliance**.  
Choose **Certifications**.  
Choose **C-PRAV with Confidence**.



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**BLOCKCHAIN VERIFIED**

AUTHENTICITY YOU CAN TRUST

# Globally proven document authentication comes to India!

C-PRAV via its partner Blockchain Verified Sweden (BCVS) brings you this unique opportunity in India.

Do you know if the document you have is authentic?

Do you know if it has been tampered with?

Blockchain Verified Sweden AB is a global provider of blockchain-based authentication and verification solutions, used by both large multinational companies and small one-person businesses. These solutions are being used across countries and regions including the USA, Canada, the UK, Europe, Japan, Taiwan, Korea and China.

C-PRAV India can now support you to ensure all your documents [test reports, certificates, contracts, invoices] are secure.

No more tampering or manipulation of your original documents via Blockchain robust verification.



Verify TIC reports

Check test reports, certificates, inspection files and compliance documents with confidence.



Detect report tampering

Identify unauthorised changes, substituted results or edited information before they become a compliance risk.



Protect certification trust

Strengthen trust in every issued report, certificate and audit trail.

# How does it work?

When a document is created, a unique fingerprint, known as a hash, is generated.

Whenever any part of the document is updated, this fingerprint changes.

Documents can be altered in ways that are difficult to detect with the naked eye, which means such changes may go unnoticed.

As a result, you may believe a certificate is authentic, while in reality it may have been fraudulently altered using PDF editing software.

Blockchain Verified takes document security one step further. Testing, Inspection and Certification, or TIC, and document filing are now moving towards Web 3.0.

## 01

### Connect your system

Connect your reporting, certification or document management system to Blockchain Verified through our API integration, Microsoft Dynamics plugin or your existing document workflow.

## 02

### Select TIC documents

Select test reports, inspection reports, certificates, audit documents or other compliance files to be verified and attested on the blockchain.

## 03

### Blockchain recording

The digital fingerprints of the documents are recorded on the Ethereum blockchain, creating permanent proof of authenticity without exposing the document contents.

## 04

### Share and verify

Share TIC reports and certificates, and allow customers, regulators or partners to instantly verify whether the document is authentic or has been changed on:

[www.blockchain-verified.com](http://www.blockchain-verified.com)

Connect with Suresh for more details:

We are pleased to setup a call to explain further with more details.



**Suresh Krishnan**  
Distributor Blockchain  
Verified India

[suresh@c-prav.com](mailto:suresh@c-prav.com)

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[www.c-prav.com](http://www.c-prav.com)



## Why Compromise?

Blockchain Verified:  
Authenticity you  
can trust!